Media and Communications Services **FACT SHEET**
(800) 451-6027 *www.IN.gov/idem* *March 2002*

Ground-Level Ozone

What is ground-level ozone?

- Ground-level ozone is an air pollutant that damages human health, vegetation and buildings.
- Ground-level ozone, the key ingredient of urban smog, forms as a result of a chemical reaction between nitrogen oxides (NOx) and volatile organic compounds (VOC) in the presence of sunlight.
- Exhaust from motor vehicles, industrial processes, gasoline vapors, chemical solvents and many solvent-based consumer products are the major sources of VOC and NOx.
- Ground-level ozone is a pollutant that forms within the first 7-10 miles of the atmosphere, known as the troposphere. It is different from the "good" ozone that occurs naturally in the stratosphere and protects the Earth from harmful ultraviolet radiation.

Why is ground-level ozone a concern?

- Repeated exposure to ground-level ozone may cause permanent damage to the lungs. Even when ozone is present in low levels, inhaling it may trigger health problems including chest pain, coughing, nausea, throat irritation, congestion and asthma attacks.
- Children, the elderly and those with existing respiratory conditions are more susceptible to the harmful effects of ground-level ozone. However, even healthy people that are active outdoors can be affected when ozone levels are elevated.
- According to the U.S Environmental Protection Agency (EPA), an estimated 10 to 20 percent of all summertime respiratory hospital visits and admissions are associated with ground-level ozone exposure.
- Ground-level ozone damages the foliage of trees and other plants, which affects the landscape of cities, national parks, forests and recreation areas.
- Ground-level ozone also aids in the deterioration of buildings and national monuments and reduces visibility.

What is being done to reduce ground-level ozone?

- The federal Clean Air Act requires the U.S. Environmental Protection Agency, the Indiana Department of Environmental Management and local governments to implement programs to reduce emissions of NOx and VOCs to meet health standards.
- The U.S. EPA recently adopted a more protective health standard for ground-level ozone. Historically, the nation's ozone standard was 125 parts per billion (ppb) measured over one hour. The new standard is 85 ppb measured over eight hours, which more closely reflects the exposure of people who work and play outside in the summer.
- Indiana's Air Pollution Control Board recently enacted the Indiana Nitrogen Oxides Control Rule to reduce statewide NOx emissions from power plants and other large incinerators by 31 percent.
- The permitting process for new or expanding industrial facilities requires an IDEM review to determine potential air emission levels and their impact on air quality. This information determines what control measures the industry must use to minimize these health and environmental impacts.
- Cleaner engines in automobiles and light-duty trucks and cleaner burning fuels are being phased into production as required by U.S. EPA. Cleaner fuels are currently available in northeast and southwest Indiana, as well as other ozone nonattainment areas in the country.

What do "Ozone Action Days" have to do with ground-level ozone?

- An Ozone Action Day is announced when state meteorologists predict a day will be conducive to the formation of ground-level ozone. On "Ozone Action Days," ground-level ozone could reach levels that pose health risks to sensitive groups.
- There are a number of tips everyone can follow to reduce their contribution to the formation of ground-level ozone on these days:
  - Carpool, walk, bike or use public transportation whenever possible;
  - Avoid excess idling and fast starts if you must drive;
  - Avoid drive through windows and consolidate trips to reduce driving;
  - Postpone mowing your lawn until late evening or the next day;
  - Avoid using gasoline powered garden equipment;
  - Postpone chores that use oil-based paints, solvents or varnishes; and
  - Conserve energy in your home to reduce energy needs from power plants.
- Residents can check the local newspaper, call 1-800-631-2871 or log on to the IDEM "Smog Watch" Web site at www.IN.gov/idem/air/smog to find out if an Ozone Action Day has been announced for their area.